



Backyard Buzz: Adopt-a-Hive

Save the Bees

Install and Manage Backyard Beehives

Alexander Krueger

Executive Summary

Name of Product: Adopt-a-Hive from Backyard Buzz

Product Owner: Alexander Krueger

Concept Description: Honeybees are dying at an alarming rate, and one way we can save them is by helping them adapt to urban environments. Through Backyard Buzz, you can adopt a beehive for your backyard (after approval from the evaluator) for a summer. Not only will it help the honeybee population, but it will also liven up your neighborhood through pollination. You will also be rewarded with the MOST local honey imaginable once we extract it from the hive in autumn.

Opportunity: As a beekeeper and environment enthusiast, I understand the honeybees' plight and wish to act before it is too late. Beekeeping in city limits has only just begun to take off, with more local municipalities allowing applicants to have a hive on their property. Beekeeping is not profitable for beekeepers with fewer than 200 hives (most commercial beekeepers have thousands of hives), but adding the backyard service on top of honey sales can boost margins and significantly lower the number of hives needed to break even. In my short career of beekeeping, I have had roughly 30 people ask me to put a hive in their backyard, so I know interest is out there. I assume 0.5% of the population would be willing to contact us for our service, with only half of those being accepted. The Twin Cities metro of 3.28MM would lead to ~8,200 customers. (I believe 1 in 400 is the absolute lowest bound)

Innovative Solution: For hundreds of years, beekeepers have transported their bees from field to field to pollinate that season's big product. Although that is remarkably efficient, the honeybee population has significantly decreased in the last decade due to poor nutrition, pathogens, pesticides, and parasites. Eliminating these four P's is at the forefront of saving them – essential, given they are responsible for 35% of food production. Our process includes selling honey at farmer's markets while finding customers willing to "Adopt-a-Hive." When conversing with prospective clients, we would set up a time to do a yard evaluation and provide the prospect with the correct paperwork for their respective local municipality. Once their respective municipality gives the "okay," we let the customer choose their package (base to premium). Some additional upgrades include the educational package, picture package, and paint package. The education package includes biweekly lessons from the beekeepers while they do their required hive check and is great for families looking to learn – especially great for kids. The picture package includes biweekly pictures of the Queen, brood production, honey production, and general images inside the hive. The picture package is excellent for those looking to show off to their friends on social media. The paint package allows the owner to custom paint the hive before the bees are installed – a great activity for artsy people and kids. We install our hives in spring and remove them in fall (spend winter in California). We are not here to persuade people that they NEED the service but to allow those interested in participating. Customers will reward themselves and their neighborhood with extremely efficient pollinators and the MOST local honey available, helping with allergies. Backyard beekeeping as a service is new to the beekeeping industry, given it is a farming (rural) activity.

Value Proposition: Customers currently donate to "save the bee" fundraising drives, bee research fundraising drives, and/or even plant flowers to provide the bees nutrition. All of these, in my opinion, are the absolute bare minimum. Adopting a hive allows a customer to visually see the extent of their help as the hive grows in summer. During the first year, my customer base will be for friends and family in the Twin Cities metro who are environmentally conscious (hopefully have a garden). Customers can buy our service through our website or by visiting us at the Minneapolis farmer's

market. Given that entry barriers are high, I will assume monopolistic power until the real competition is made. I believe much hesitation from most of the population, which is fine, given my customers will truly desire our service. Our Adopt-a-Hive service is subscription-based and will cost our customers \$280 per year. The education, picture, and painting add-ons will cost \$60, \$40, and \$20, respectfully. However, if a customer wishes to have all three, it will cost \$100 (\$20 savings).

Competitive Advantage: No competition exists in the Twin Cities (not sure if there are any in America). As mentioned, our Adopt-a-Hive service is not a NEED, but instead a solution to a global problem, and we find our pricing worth the satisfaction. One large barrier to entry is having the knowledge to keep bees. Another barrier in question is how many permits municipalities will accept. Once Backyard Buzz is on its second or third year, municipalities may question the sudden increase in applicants and likely change rules and set stricter limits, which will increase my competitive advantage. I can't imagine stiff competition (at most two competitors within the first five years). The goal is to get such a head start; I will be a monopoly. Competition would likely come from commercial beekeepers with far more resources making it difficult, but a head start surely helps.

Entrepreneurial Team: For the first year, I can manage myself, but for year two, I imagine needing an intern to help in summer doing biweekly hive checks (a high schooler would be ideal for this). In year three, I will need a part-time administrator to help me keep organized and work diligently on customer relations in addition to an intern.

Financial Highlights and/or MBV Outcomes: The concept is in trial stages. I expect one full year of real trials before bringing it to market for the summer of 2022. The break-even for this service is roughly 60 hives, which will not occur until year three (2024). Backyard Buzz will not need any outside capital for the 2021 year but will need roughly \$50,000 to get started in year two in hopes of establishing a strong foothold.

Consumer Problem

Housing honeybees is not a desire for most of the population, but fortunately, those with gardens tend to think differently. Backyard Buzz's target customer for the Adopt-a-Hive program is gardeners. Gardeners tend to be more environmentally friendly, plus they will benefit the most from our service through pollination. Without extensive technology and online advertising, we will market our product at the Minneapolis farmer's market. The farmer's market is the most affordable way to connect with environmentally conscious people. It is noted in the infographic that pollinators, like honeybees, are responsible for 35% of food production. Without pollinators, like honeybees, we would be left with a world without most fruits. Currently, most gardeners assume their plants will be pollinated and don't think about how that occurs. Some gardens don't get pollinated at all, albeit rare. Subscribing to the Adopt-a-Hive service eliminates that barrier as honeybees are one of the most efficient pollinators. It is a lot easier to feed a family with homegrown food when yields are significantly increased, just by having a hive nearby. One barrier we are aware of is neighborhood sentiment regarding a beehive. However, we find that the benefit of having a hive in a neighborhood dramatically outweighs the potential risks that are associated. We believe, given a third of homeowners have a garden, that 0.5% of the general population would love to have a hive in their backyard that someone else cares for them. 0.5% reflects that 1 in 60 gardeners would love to have our service. This estimate is the absolute lower bound, as we hope roughly 1 in 20 gardeners would be interested, meaning that 1.5% of the general population would consider our Adopt-a-Hive service. Knowing that millennials spend most on eco-friendly products, we would likely focus on their age group and older, given our customers need to be homeowners.



Product Problem

Honeybees are dying at an alarming rate, and one solution would be to introduce the honeybees to the urban setting through backyard beekeeping. We are a service that installs a beehive in spring, takes care of the hive throughout summer, and sends the hive to California in autumn. Our service mostly relies on the approval of our backyard hive applications. We have no data to suggest our business could be shut down due to a plethora of applications being filed, but it is a risk.

Backyard Buzz is still in the concept stage as we prepare for trial testing during the summer of 2021. Assuming all goes well during the 2021 summer, we will fully launch in summer 2022. Our Adopt-a-Hive service is an innovative solution to the honeybee plight. Unfortunately, there is a lack of data within the realm of urban beekeeping. However, Backyard Buzz will be at the front lines collecting and providing data on how we can improve the honeybee's ability to adapt to the urban environment. Our mission is to save the bees, but we also offer a new outlet in making beekeeping profitable at a much lower break-even; in terms of hives.

Each hive is plain white, but we do allow for upgrades that can change this. One of the upgrades that we feel will provide the most additional revenue is to custom paint your hive. This customization is an excellent activity for kids but also adults looking to add their personal touches. The custom paint option will cost an extra \$20 per year of painting. Another add-on we believe will be popular is our educational package that includes lessons during each hive check. Hive checks occur biweekly, and the lessons will last for roughly 10-15 minutes, depending on the health of the hive and time of year. The educational add-on will cost \$60 for the summer. A third add-on that we find beneficial for both ourselves and our customers is the picture package. Our keepers will always keep notes on each of our hives but documenting through pictures would be great for families looking to learn visually. Each week, our keeper will photograph the Queen, brood production, and honey production – along with general pictures inside the hive. We believe families would love to share these pictures with their friends online, so we will always share the photos digitally for download. The picture add-on will cost \$40 for the summer. If a family is interested in all these additional services (premium package), it will cost an additional \$100, a savings of \$20.

One of the most significant risks we are taking is allowing our customers to protect our hives. A lot can happen between the biweekly hive checks, so establishing trust is essential.

Market Problem

The beekeeping industry has lacked innovation over its long history, but since it has worked, why change? Opportunity is what drives innovation. Beekeeping, for most, is a hobby, while for some, it is a full-time job. Where is the cut-off? From my time beekeeping, I have learned that it takes roughly 200 hives to break even in the beekeeping world. Our Adopt-a-Hive solution decreases that break-even significantly due to multiple revenue sources rather than just one. The beekeeping industry has been built mainly off selling honey without any additional sources of revenue. Backyard Buzz is solving that issue by also earning high-margin revenues from the properties the hives are located.

With climate change and global warming finally getting the attention it deserves, more people are becoming environmentally conscious and planting gardens. Gardens do not work unless the plants are pollinated (yes, some plants do not need pollination), so having one of the most efficient and

popular pollinators nearby significantly increases yield. Honeybees are also great for any neighborhood with many flowers, given there is more food for them.

If we fail to save the bees and become extinct, we will no longer have 35% of our food. So, the bees are not just a local issue, but a global one, and it should be the responsibility of all of us to help pitch in an attempt to fix the problem before it is too late.

Currently, no product replicates what we are attempting to do. There are adopt-a-hive programs, but none of them bring the hive to you – the customers only receive a picture and gift basket. The current strategy allows for the companies to send photographs of the same hive to customers – no uniqueness.

We are hopeful that our service one day will be available in most large cities around the United States, but we will only be focused on the Twin Cities metro for the first five years. It is possible to grow exponentially, be taken over by a PE firm, and eventually publicly traded on the OTC market (500MM market cap), but we are a long way from there.

Business Model Problem

Our service begins through an interest application filed by a potential customer either through our website or physically at the Minneapolis farmer's market. A yard appraisal follows up interest applications to ensure the property meets the customers' requirements enlisted by the customers' respective municipality. The appraisal allows us to get to know our potential customers a bit more and establish trust. Backyard Buzz helps fill our customers to fill out the correct paperwork in applying for a hive permit. We will also keep a paper trail within our data cloud to access the paperwork whenever necessary.

The Adopt-a-Hive service requires a minimum of a 5'x5' plot of land. We install a 2' high fence around the hive to prevent children and pets from the "sting zone." Given bee stings are an uncontrollable event, we are not liable for any stings that our bees make. The hive itself has a handful of features. We level the ground, if needed, and put four cinder blocks under the hives to prevent the bottom of the wood hive from rotting. Each hive has its number to help us keep track of inventory and other data. Every hive will have a water feeder on top, which acts as both a weight to keep the hive top on and a water source for the bees. All deep hive boxes will have a hole on the front of the hive to allow for the worker bees to be more efficient in entering and exiting the hive while they go foraging for nectar and pollen. These holes will be plugged in spring and in summer to trap more heat inside.

We believe in five years; Backyard Buzz will hit an accumulated revenue of \$1,000,000 between our Adopt-a-Hive service and honey/wax sales. Our goal will come through rapid expansion and quick adaption to the ever-changing environment. This service is a new concept, so there will be many situations incurred that we cannot prepare for. Situations like this will leave us to think quickly, adapt, and overcome hurdles as we face them. We find it essential to take any actions possible to ensure the honeybee population is protected and believe many will find our product beneficial.

We hope to establish brand recognition within two years through customer satisfaction and word of mouth. Our picture package is something we hope can be used as free advertising – attracting friends and family of customers.

Simple timeline, assumptions include –

- Adopt-a-Hive selling for an average \$330 (Base: \$280, Premium: \$380)
- Each hive producing 50 pounds of honey, equating to 50 12 oz. bears of honey (assuming 25% loss during packaging to account for worst-case)

	2021	2022	2023	2024	2025	2026
Hives	10	50	100	200	500	620
Adopt-a-Hive	\$3,300.00	\$16,500.00	\$ 33,000.00	\$ 66,000.00	\$ 165,000.00	\$ 204,600.00
Honey	\$3,500.00	\$17,500.00	\$ 35,000.00	\$ 70,000.00	\$ 175,000.00	\$ 217,000.00
Yearly Revenue	\$6,800.00	\$34,000.00	\$ 68,000.00	\$ 136,000.00	\$ 340,000.00	\$ 421,600.00
Accumulated Rev.	\$6,800.00	\$40,800.00	\$ 108,800.00	\$ 244,800.00	\$ 584,800.00	\$ 1,006,400.00

We figure that it will take six years before accumulating \$1,000,000 in revenues

Again, we believe our best way of attracting new customers is through conversations at the Minneapolis farmer's market and word of mouth/free social media posts. Our goal is to have customers seek us. We are not salespeople – we want our customers to WANT us. This ensures the right people are using our product and takes pressure away from having to meet a specific sales quota. We will sell our honey at the farmer's market, online, and local grocery co-ops. The distribution at co-ops will not likely occur until 2023, when our feet are under us and running.

One of our most considerable risks is time. It takes a full year to do a test, whereas, for most new products, you can test in 30 seconds. Every year is different and presents its challenges. It is difficult for us to gauge our success until the year is over, which causes a massive delay in expansion.

Base \$280: You get a white beehive in spring that we install bees into. We care for the hive all summer while the bees provide pollination services for you and your neighbors. You will be able to see how fast the hive grows over summer as the hive grows. Best of all, at the end of summer, you will be rewarded with three 12 oz. bears of your honey – can't get any more local than that!

Premium \$380: in addition to the base package, the premium package includes the educational, picture, and painting add-ons. These were described earlier in the Product Problem section, so I will not be redundant.

Overt Benefit – Not only would you be rewarded with the most local honey you could ever buy, but you would also know that your efforts are helping a global issue, despite the scale.

RTB – Our independent researchers will be thrilled to be collecting data to ensure the future of the bee population is here to stay.

Dramatic Difference - Given pollinators affect 35% of the global food production, we need to take action in OUR effort to "Save the Bees."

Adoption Hurdles – Your neighbors will thank you for introducing the most efficient pollinators as their garden yield will be significantly increased.

Social Sufficiency - We believe the best way you can directly help this cause is by "Adopting a Hive." This commitment would only require a 5' x 5' plot in your backyard that we together can choose, and we'll take care of the rest.

Operations/Commercialization Problem

My prioritized strategy in getting my service to the marketplace includes doing a year of trials to tie up any loose ends and adapt accordingly. There are so many questions that will be left unanswered, but many will determine the concept's success. If the trials go well, I will have plenty of information to help adjust before launching in the spring of 2022. It is difficult to make an accurate assumption of how things will go with all the uncertainty around municipality application limits – hopefully, this is the only major obstacle. Given the scale of operations in the first year, I do not anticipate needing help (I have run more hives in the past alone). However, assuming we scale from 10 to 50 hives between years 1 and 2, I will need an intern to conduct hive checks over the summer. I will need to create a new label for my honey to account for rebranding to Backyard Buzz. Honey packaging is all done by me, but I currently am not USDA certified – something I will need to achieve in year one to extract and sell honey legally. It is an option to extract honey through a third party already certified, but looking forward, it is a need. I have already established a relationship to send hives to California in winter. This partnership allows me to double my hives each winter at no cost. For every hive we ship to California, we will be returned two in spring. I have also build a relationship with the Wisconsin Honey Producers Association president, so if the demand for honey exceeds my supply, I have an outlet to create equilibrium. The most critical milestone is autumn of year one, where we figure out the best method in collecting hives to ship off. This is also a milestone that allows us to reevaluate if we want to conduct a capital raise of \$50k for year two. I will work out of my Uncle's house in Eden Prairie for the first year, and if successful, I will then build an extraction facility on his property. The extraction facility will cost roughly \$30,000.

What are the critical milestones needed to raise the probability of success?

Where will you do all this work? Who will do this work? What costs can you project and reasonable assumptions for the basis of these costs?

What is your internal development timeline? This should include customer testing, shelf-life testing, and validation your product will indeed work.

Add your Product Roadmap and product hypotheses here

Add a table of features and sources for how you will find these

Add a table of components and features that you know of or those questions you don't know about

Add a manufacturing infographic that shows the steps in the manufacturing process

Resource Problem

What do we not know? We do not know if any municipality will question the sudden increase in hive applications and a limit. We do not have our extraction facility and will need to outsource for at least the first year. We are unaware of how customer neighbors may react to our service. We can not control our bees' actions and hope that stings will be near zero – again, an uncontrollable event that we are not liable for but can ruin our brand image and raise our adoption hurdles to unachievable

heights. This feels like the risk section in a 10K. Poor weather and lack of food for our honeybees will negatively affect our business and cause our outcomes to fall short.

Recommendation

GO – there is virtually no risk in a trial during the summer of 2021, where we locate ten households with varying qualities in the western suburbs to install a hive. Interest needs to be committed by January 15th to reserve the bees from our supplier, along with enough time to submit the necessary paperwork to local municipalities where necessary. There will be no need for outside capital investment during the 2021 trial year. However, if the trial is successful, we estimate a need for a capital investment of \$50,000 to get the wheels going for summer 2022.

Concept Portfolio

Product Roadmap:

Journey	Consumer Actions	Consumer Thinking	Consumer Feelings
Realize Need	How can I help save the bees?	I plant flowers, but is that enough	It is difficult to know if I am making a difference or not
Inform	I hear the bees are dying at an alarming rate. And pollinators are responsible for 1/3 of the food we eat	I cannot imagine planting flowers is contributing greatly to the honeybee population	I am comfortable having bees in my neighborhood, and I know my neighbors are too.
Learn	If all the bees die, were in trouble. I want my kids to live in a hospitable world (with bees).	I wonder if by adopting a hive, I would be contributing aid to the honeybee population.	If my neighbors are allergic, I may not be able to do this. If I have young kids, how will I know they are safe?
Decide	I need to find a way I can contribute more to the cause	It is nice to see the growth of a colony over summer, and watching them fly to my flower garden	I cannot wait to let my neighbors know my excitement about this opportunity
Use	Wow, Backyard Buzz gives me the option to adopt a hive! I can then see how I am helping the bees	Being able to show off my hive to my family and friends is great! they all wish they signed up this summer. Save the bees!	I did not need to worry about pollinating my garden, the bees did it.
Enjoy	I am directly helping save the bees!	I do not have to worry about if I am doing enough, as I know the beehive is growing in population and they are sucking down the water I am feeding them	Glad I can be making a difference by adopting a hive from Backyard Buzz

In place of MBV:

Description		2021 (10 hives - beta out of house)	2022 (50 hives - "intro year")	2023 (100 hives - now a business)	% Change YoY	CAGR
Sales Rev	Adopt-a-Hive	\$ 3,300.00	\$ 16,500.00	\$ 33,000.00	100%	400%
Sales Rev	Honey Sales	\$ 3,500.00	\$ 17,500.00	\$ 35,000.00	100%	400%
Cost of Sales	AAH - Labor	\$ 720.00	\$ 3,600.00	\$ 7,200.00	100%	400%
Cost of Sales	AAH - Bees	\$ 400.00	\$ 3,000.00	\$ -	-100%	-100%
Cost of Sales	AAH - Equipment	\$ 1,000.00	\$ 8,000.00	\$ 10,000.00	25%	400%
Cost of Sales	Honey - Packaging	\$ 250.00	\$ 1,250.00	\$ 2,500.00	100%	400%
Cost of Sales	Honey - Extraction	\$ 400.00	\$ 2,000.00	\$ 10,000.00	400%	1150%
Cost of Sales	Rent	\$ -	\$ 6,000.00	\$ 10,000.00	67%	#DIV/0!
Cost of Sales	Labor	\$ 3,000.00	\$ 8,000.00	\$ 22,000.00	175%	267%
		\$ 1,030.00	\$ 2,150.00	\$ 6,300.00	193%	206%

Year 1 (2021) will be a “Beta” year to test if the concept is viable before scaling – I would rather default on a \$25,000 loan than one of \$100,000. Year 1 will only be 10 hives. With prices ranging from \$280 to \$380, I assume average price will be \$330. Ten hives at that average price leads to \$3,300 in revenue for year 1. I multiplied each hive count per year by the \$330 to arrive at \$16,500 and \$33,000 for revenues under AAH for 2022 and 2023, respectively.

In terms of Honey sales, I am assuming each hive produces 50lbs of honey (800 oz.) I will sell honey in 12 oz containers for \$7 each. Accounting for “runoff” I calculated each hive will provide 50 12oz bears (25% loss in honey – worst case scenario). Leading to \$350 in honey sales per hive – revenues are recorded, respectively.

AAH labor is calculated by assuming each hive takes 20 minutes to check every other week. I record 36 weeks that the hives will be held at our customers properties before being sent to California for winter. 18 checks at 20 min each = 6 hours per hive a year @ \$10/hour = 60 + 20% for driving = \$72 in labor for each AAH.

Given I have 10 hives already, I assume I will buy 5 to “update” some of my equipment – given each hive is ~200. I wish to find a carpenter to help with this cost and support local. I then calculate to buy 40 and 50 hives for 2022 and 2023, respectively.

I will also have to pay for the bees. My sole employee made a deal with a bee transporter that for every hive we send to California, we will receive 2 in spring. This means I will have to buy 4 packages of bees for spring 2021 at 100 each. For 2022, I will only need to buy 30 packages given I will get 20 in spring 2022. Knowing they double, I will not need to invest in 2023 (absolute best-case scenario)

For the honey segment, packaging is the largest cost. Each container cost 0.27, the lids cost 0.12, and the label cost .11 totaling \$0.50 per container (the honey is “free”).

Before I can package, I need to extract the honey. For the first two years I will outsource this step given extraction is very capital intensive, and I want to make sure the business is viable first. For 2023, assuming all goes well, I will invest in large scale extraction equipment given my scale. 88 frame extractor is 6,000 and the other needs will add up close to 10,000.

I exclude rent from first year given it is Beta and I will operate from home where rent will be covered by my full-time job. I may look to write it off through Backyard Buzz, but not currently in the plans. The second year, given 50 hives, I will need a place to store equipment

I will split rent with my uncle at his warehouse where I will pay 500 / month given I will only use it for ~4 months out of the year. - At 10/hour to keep it easy, I assume for myself to spend 300 hours in year 1 with everything. Year two I assume 600 hours myself and 200 hours for help (intern). In year 3 I plan to hire a “full time employee” where I will put in 1400 hours and they will put in 800.

Voice of consumer questions:

1. Do you have a garden

If yes:

2. What do you grow
3. How large is your garden
4. When did you start gardening
5. What convinced you to do so
6. How do you change your garden from year to year
7. How have your yields been
8. Do you consume everything you grow
9. Do you have extra that you donate/share/sell
10. Where did you learn to garden
11. How much joy/stress has your garden brought you
12. Who of your friends also has a garden
13. How often, if at all, do you see pollinators in your garden (butterflies and bees)

If no:

- 2. Do you have any flowering plants in your yard (Do you buy those flowers every summer)
 - 3. Are there certain flowers you like
 - 4. Would you consider yourself environmentally friendly (red flag question)
 - 5. Where do you buy most of your food
 - 6. Have you shopped at a farmer’s market (are there any specific products)
 - 7. Have you considered a garden (what are the constraints holding you back)
 - 8. Of your neighbors with great looking yards, what would you consider to be the most notable feature(s)
 - 9. Would you consider your relationship with your neighbors to be good
 - 10. Do you care about the presentation of your yard
 - 11. Would a “living” yard be of any value to you
 - 12. Have you thought about the impact pollinators have on our food supply
 - 13. Do you come in contact with pollinators around your yard
14. Are you allergic to bees
 15. Do you know some of the benefits of “local” honey
 16. Where do you usually go to buy honey
 17. Do you know if that honey is local?
 18. Did you know that there has been extreme pressure on the honeybee population
 19. What actions would you associate with “saving the bees”
 20. Would you be interested in adopting a hive next summer?



**Backyard Buzz:
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Process

- Interest Application
- Yard Evaluation
- Permit Application
- Install
- Hive Checks
- Extract Honey
- Ship to California

